configured to generate a stream of digital data representing pixels of the scene, a first combination memory structure and register to store pixel values representing pixels of said scene at a current frame time, said pixels being bit mapped in said first memory structure and register in accordance with said scene, a second register connected to store pixel values representing said scene at a second frame time prior to said current frame time, said pixel values being bit mapped in said second register in accordance with said scene, a third register connected to store mathematical operation results between the corresponding pixel values in said first register and said second register, wherein said third register stores values representing the temporal changes in said pixel values.

6. (Amended) A scene detection system as recited in claim 5, further comprising a fourth register connected to store mathematical operation results stored in said third register at a previous frame time to the frame time of the mathematical result values stored in said third register, a fifth register connected to store mathematical results between the corresponding values stored in said fourth register and said fifth register.

7. (Amended) A system as recited in claim 4, further comprising a sixth register for storing mathematical factors corresponding to criteria from a processing algorithm and a flag register connected to store a flag when a value stored in said third register exceeds the corresponding factor stored in said sixth register.

8. (Amended) A system for scene detection as recited in claim 7, further comprising means to transmit digital data representing said scene with a radix control output in accordance with the associated flags stored in said flag register.

B7 cont'd

9. (Amended) A system for scene detection as recited in claim 7 further comprising means to transmit digital data representing said scene for only these pixels which meet criteria set by a processor external to the memory structure.

11. (Amended) A system for video conferencing as recited in claim 5 wherein said scene detection system has multiple ports for input and output of memory independently of register and flag signal lines.

B3

Please add new claims 12-26 as follows:

12. (New) A scene detection system according to claim 5 wherein the detector is a video camera.

B4 cont'd

13. (New) A scene detection system according to claim 5 wherein the pixels are visual elements.

14. (New) A scene detection system according to claim 5 wherein the pixels are non-visual elements.

15. (New) A method of sensing a physical characteristic and compressing a stream of digital data corresponding to the physical characteristic, the method comprising:

sensing a physical characteristic;

generating a first digital datum representing the physical characteristic at a first time;

storing the first digital datum in an individually addressable memory cell;

generating a second digital datum representing the physical characteristic at a second time, the second time being different than the first time;

storing the second digital datum in the same memory cell as the first digital datum;

automatically interacting in the memory cell the first digital datum with the second digital datum to provide a processing result; and

outputting from the memory to a processor a compressed stream of digital data representing the physical characteristic, the stream being compressed in accordance with the processing result.

16. (New) The method of claim 15 further comprising:

the processor making a change to a processing algorithm, wherein the processor makes the change in real time based on the compressed stream output from the memory.

17. (New) The method of claim 15 further comprising:

the processor automatically making a change to an interaction algorithm used by the memory to interact data.

18. (New) The method of claim 15 further comprising

the memory cell comparing the processing result with a prestored datum.

19. (New) The method of claim 18 further comprising the processor automatically changing the memory's prestored datum based on the comparing, without the processor first receiving the second digital datum.

20. (New) The method of claim 15 wherein the digital data comprise video data.

21. (New) The method of claim 15 wherein the digital data comprise seismic data.

22. (New) The method of claim 15 further comprising:

the memory cell comparing the processing result to a previous processing result and calculating therefrom an acceleration of data change; and

outputting the calculated acceleration from the memory cell to the processor.

23. (New) A method of sensing and digitizing physical characteristics, the method comprising:

simultaneously sensing a first physical characteristic at a first point in space and a second physical characteristic at a second point in space, the first point in space being adjacent the second point in space;

generating a first digital datum representing the first physical characteristic;

generating a second digital datum representing the second physical characteristic;

storing the first digital datum in an individually addressable memory cell;

storing the second digital datum in the same memory cell;

automatically interacting in the memory cell the first digital datum with the second digital datum to provide a processing result;

comparing in the memory cell the processing result to a prestored threshold to create a comparison; and

outputting the comparison from the memory cell to an external processor without the external processor first receiving the second digital datum.

24. (New) The method of claim 23 further comprising the external processor adjusting the threshold in the memory cell based on the comparison.

25. (New) The method of claim 23 further comprising the external processor adjusting the threshold in the memory cell based on a region encompassing the first and second physical characteristics.

26. (New) The method of claim 25 wherein the region represents a person's face.

Respectfully submitted,

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